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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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10/505,369

05/05/2005

Peter Nordlof

1505-1054

7137

466 7590 09/19/2008

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209 Madison Street  
Suite 500  
ALEXANDRIA, VA 22314

EXAMINER

PIGGUSH, AARON C

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

09/19/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/505,369 | <b>Applicant(s)</b><br>NORDLOF, PETER |  |
|                              | <b>Examiner</b><br>Aaron Piggush     | <b>Art Unit</b><br>2838               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foster (US 4,146,830) in view of Wyss (US 5,838,142).

With respect to claims 1 and 17, Foster discloses a device for reducing the output current of a primary switched battery charger, which charger comprises an input DC power circuit (see middle of top portion of Fig. 1 and abstract), a transformer (seen at the top of Fig. 1) and a control unit for modulating the DC input power (no. 24 in Fig. 1, which accepts control inputs from no. 25 and 26 in Fig. 1), characterized in that it comprises means for measuring pulse ratio of switch pulses on the output side of the charger (col 4 ln 10-30 and Fig. 7), means for measuring peak value of output voltage (col 3 ln 30-57, abstract, and no. 34 and 35 in Fig. 1), means for differentially amplifying the signals measured (no. 30 and 49 in Fig. 3), means for integrating voltage/current of the differentially amplified signals (no. 27 and 52 in Fig. 3), wherein the integrated voltage/current is used for modulating the input DC power in order to reduce the output current (col 6 ln 27-68 and Fig. 7).

Please note that although a high frequency transformer is not explicitly disclosed by Foster, the battery charger shown in Fig. 1 normally uses a high frequency transformer because it enables high frequency operation, and therefore allows a smaller size to power ratio.

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Wyss discloses the use of a high frequency transformer in a battery charger (col 5 ln 2-12 and Fig. 3), in order to create a smaller circuit with a high power output.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a high frequency transformer in the device of Foster, as did Wyss, so that a smaller size to power ratio could be attained for the circuit.

The method steps are carried out during normal operation of the device above.

With respect to claim 2, Foster does not expressly disclose wherein there is a switch between the means for differentially amplifying and the means for integrating.

Wyss discloses a circuit with a switch between an integrating means and a differentiating means (no. 21 in Fig. 2), in order to provide greater control of a weighting factor in the overall control of the charger.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a switch in between the integrating and differentially amplifying means in the device of Foster, as did Wyss, so that greater control of weighing factors could be attained for the control of the supply current.

### ***Response to Arguments***

3. Applicant's arguments filed May 22, 2008 have been fully considered but they are not persuasive.

With respect to claim 1, applicant argues that Foster does not disclose a high frequency transformer. Applicant further argues that Foster does not measure the pulse ratio of switch pulses on the output side of the charger or disclose differential amplification of the signals.

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Additionally, applicant argues that Wyss does not overcome those deficiencies, Wherein the charger of Wyss is operating with completely different functions for controlling charging.

Examiner respectfully disagrees for the following reasons: Foster and Wyss are used in combination, wherein Wyss is specifically used for the inclusion of a high frequency transformer in the battery charger and an additional switch between an integrating means and a differentiating means. Therefore, each reference does not need to meet the requirements of the claim language individually, taking into account the fact that the motivation for combining the references and the actual combination of the references is still seen as reasonable. Concerning the measurement of the pulse ratio and differential amplification, Foster is still seen as meeting these requirements as noted in the previous rejection (and above). Foster discloses the means for measuring the pulse ratio of switch pulses in col 4 ln 10-30 and Fig. 7, wherein the signals 11 and 12 are low power voltage pulses which switch on the gate current pulses at the appropriate point in the mains voltage cycle (wherein the pulses are controlled to vary the phase angle of firing of the thyristors in accordance with the charge current required). He also discloses the means for differentially amplifying the signals measured (in no. 30 and 49 in Fig. 3), as is further explained in col 6 ln 29-68.

### ***Conclusion***

**4. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Piggush whose telephone number is (571)272-5978. The examiner can normally be reached on Monday-Friday 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Akm Enayet Ullah/  
Supervisory Patent Examiner, Art Unit  
2838

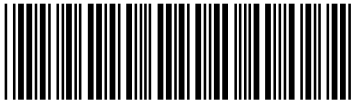
/A. P./

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|---|--------------------------------|--|--|
| <div><b>Application Number</b></div> <div></div> | <b>Application/Control No.</b> | <b>Applicant(s)/Patent under Reexamination</b> |  |
|   | 10/505,369                     | NORDLOF, PETER                                 |  |
|   | <b>Examiner</b>                | <b>Art Unit</b>                                |  |
|   | Aaron Piggush                  | 2838   |  |